

DELIVERY SYSTEM FOR LIQUID CATALYSTS**ABSTRACT OF THE DISCLOSURE**

A delivery system for generating a sparging gas containing catalyst particles and delivering them to a flame zone of a combustion reaction is disclosed. A catalyst mixture receptacle for the delivery system includes a floating ball check valve on an air inlet to an inlet tube of the receptacle which is spaced from a vertical wall of the receptacle. A secondary splash chamber having an opening smaller than the body of the chamber is also included between the main body of the receptacle and the sparging gas outlet for the receptacle to reduce the opportunity for catalyst mixture in liquid form to reach the sparging gas outlet. An enrichment circuit is disclosed including a controller, pump, and a one-way check valve for adding additional sparging gas to a flame zone of a combustion process in times of added load. The receptacle may be mounted with a vibrator, such as the pump, to increase the consistency of the bubbles in the sparging process. Alarms and indicators, including remote alarms and indicators, may also be included to relay pertinent information regarding the delivery system. The sparging gas may thereafter be pressurized and injected in particular applications.